

## CLAIMS

What is claimed is:

- 5 1. A wear protection device for a musical wind instrument comprising of:  
at least one solid wear-resistant non-metallic interface insert positioned at  
any location of the musical instrument where separate sections of the  
musical instrument may come into contact with each other during normal  
operation of the musical instrument and wherein the interface insert  
prevents direct contact between surfaces of different sections of the  
10 musical instrument.
2. A wear protection device of claim 1 wherein:  
at least one section of a musical instrument, which section during normal  
operation of the musical instrument may come into contact with another  
15 section of the musical instrument, has an end point with a groove capable  
of slidably receiving the interface insert and wherein the interface insert  
protrudes beyond the end point of the section of a musical instrument.
- 20 3. A wear protection device of claim 1 wherein:  
a tubular interface insert is positioned between posts and a shaft wherein  
the individual post could be either a support post or an end post and the  
shaft passes through at least one support post and/or terminates at at least  
one end post and wherein the tubular interface insert has an internal  
25 diameter that is substantially equal to the external diameter of the shaft.

4. A wear protection device of claim 3 wherein:

at least one post has at least one end point that may come into contact with  
a tubular tubing section of the musical instrument and wherein the tubular  
interface insert protrudes beyond such end point of the post thereby  
preventing direct contact between the post and the tubular tubing section.

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5. A wear protection device of claim 1 wherein:

the interface insert is a cone shaped bearing positioned between a mating  
end of the shaft and at least one support or end post wherein the post has  
an axial conical cutout for receiving the cone shaped bearing interface  
insert.

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6. A wear protection device of claim 1 wherein:

a roller housing has a first end and a second end while a roller receiver has  
a first end and a second end, wherein the first end of the roller housing is  
coupled to the second end of the roller receiver during normal operation  
of the musical instrument and wherein the second end of the roller receiver  
has a groove capable of slidingly receiving the interface insert and  
wherein the interface insert protrudes beyond the second end of the roller  
receiver thereby preventing direct contact between the second end of the  
roller receiver and the first end of the roller housing.

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7. A wear protection device of claim 6 wherein:

the second end of the roller receiver has an annular groove capable of  
slidingly receiving an annular interface insert and wherein the annular  
interface insert protrudes beyond the second end of the roller receiver  
thereby preventing direct contact between the second end of the roller  
receiver and the first end of the roller housing.

8. A wear protection device of claim 1 wherein:

a tubular roller interface insert is positioned between a roller housing and a  
roller bolt wherein the roller bolt and the tubular roller interface insert are  
housed within the roller housing and wherein the external diameter of the  
tubular roller interface insert is substantially equal to the internal diameter  
of the roller housing while the internal diameter of the tubular roller  
interface insert is substantially equal to the external diameter of the roller  
bolt.

9. A wear protection device of claim 8 wherein:

the roller housing has a first end and a second end while a roller receiver  
has a first end and a second end, wherein the first end of the roller housing  
is coupled to a roller receiver during normal operation of the musical  
instrument and wherein the tubular roller interface insert protrudes beyond  
the first end of the roller housing thereby preventing direct contact  
between the first end of the roller housing and the second end of the roller  
receiver.

10. A wear protection device of claim 8 wherein:

the second end of the roller receiver is coupled to the first end of the roller housing during normal operation of the musical instrument and wherein the second end of the roller receiver has a groove capable of slidingly receiving an interface insert and wherein the interface insert protrudes beyond the second end of the roller receiver thereby preventing direct contact between the second end of the roller receiver and the first end of the roller housing.

10 11. A wear protection device of claim 10 wherein:

the second end of the roller receiver has an annular groove capable of slidingly receiving an annular interface insert and wherein the annular interface insert protrudes beyond the second end of the roller receiver thereby preventing direct contact between the second end of the roller receiver and the first end of the roller housing.

12. A wear protection device for a musical wind instrument comprising of:

at least one solid wear-resistant non-metallic annular interface insert coupled to at least one end point of at least one tubular tubing section of the musical instrument wherein the annular interface insert has an internal diameter that is equal to an internal diameter of the tubular tubing section to which the annular interface insert is coupled to.

13. A wear protection device of claim 12 wherein:

at least one end point of at least one tubular tubing section of the  
instrument has a groove capable of slidingly receiving an interface insert  
and wherein the interface insert protrudes beyond the end point of the  
tubular tubing section.

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14. A wear protection device of claim 13 wherein:

at least one end point of at least one tubular tubing section of the  
instrument has an annular groove capable of slidingly receiving an annular  
interface insert and wherein the diameter of the annular internal groove is  
substantially equal to the external diameter of the annular interface insert  
and wherein the annular interface insert protrudes beyond the end point of  
the tubular tubing section.

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15. A wear protection device of claim 14 wherein:

the end points of adjacent tubular tubing sections, which end points may  
come into contact with each other during normal operation of the musical  
instrument, each have an annular groove capable of slidingly receiving the  
annular interface insert.

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